

We claim:

1. A method which comprises treating N-methyl-2-pyrrolidone with an alumina that desorbs less than 100 $\mu\text{mol/g}$ of isobutylene between 225°C and 400°C in a standard tert-butyl alcohol dehydration test as described herein.
2. The method of claim 1 wherein the alumina desorbs less than 50 $\mu\text{mol/g}$ of isobutylene.
3. The method of claim 1 wherein the alumina desorbs less than 10 $\mu\text{mol/g}$ of isobutylene.
4. The method of claim 1 performed under conditions effective to remove at least about 80% of amine impurities from the N-methyl-2-pyrrolidone at 4 bed volumes treated.
5. The method of claim 4 performed under conditions effective to remove at least about 95% of the amine impurities.
6. The method of claim 1 performed under conditions effective to remove at least about 60% of APHA color from the N-methyl-2-pyrrolidone at 4 bed volumes treated.
7. The method of claim 6 performed under conditions effective to remove at least about 65% of the APHA color.
8. The method of claim 1 wherein the alumina is selected from the group consisting of Alcoa Selexsorb CDX, Engelhard 5545, Axens CA 2/5, and Axens SAS 870.